

CLAIMS

1 1. Data decompression apparatus for decompressing  
an input stream of codes to recover an output stream  
of data characters corresponding thereto, a code  
corresponding to a string of data characters, comprising  
5 code decoder means including a plurality of code  
decoder outputs corresponding to a respective plurality  
of codes to be assigned to strings,  
said code decoder means responsive to an input  
code for selectively energizing a code decoder output  
10 in accordance with said input code,  
a plurality of logic elements corresponding to  
said respective plurality of codes, a logic element having  
an input and an output, the inputs of said logic elements  
being coupled to respective code decoder outputs,  
15 character storage means responsive to the code  
decoder outputs and having a plurality of storage  
locations for storing respective data characters, a  
storage location being accessed by a code decoder output  
to provide the data character stored therein, and  
20 coupling means for selectively coupling outputs  
of said logic elements to inputs thereof so that the  
data characters of the string corresponding to said input  
code are provided by said character storage means,  
thereby providing said output stream of data  
25 characters.

2. The apparatus of claim 1 wherein said coupling  
means comprises means for selectively coupling outputs  
of said logic elements to inputs thereof so that  
30 energization of the code decoder output corresponding  
to said input code propagates through sequentially coupled  
logic elements to access storage locations of said  
character storage means to provide the data characters  
of the string corresponding to said input code.

1 3. The apparatus of claim 1 further including means  
for recording an extended string and assigning a code  
thereto, comprising

means for storing the first character of the  
5 string corresponding to said input code in the storage  
location of said character storage means accessible by  
the code decoder output corresponding to a next code  
to be assigned to a string,

said coupling means being operative for coupling  
10 the output of the logic element corresponding to said  
next code to the input of the logic element corresponding  
to the code received previously to said input code,

so as to record in said data decompression  
apparatus the extended string comprising the string  
15 corresponding to the previously received code extended  
by said first character and to assign said next code  
thereto.

4. The apparatus of claim 1 further including means  
20 for processing a currently fetched code to which a  
recorded string has not been assigned, comprising

means for storing the first character of the  
string corresponding to the code received previously  
to said currently fetched code in the storage location  
25 of said character storage means accessible by the code  
decoder output corresponding to a next code to be assigned  
to a string,

said coupling means being operative for coupling  
the output of the logic element corresponding to said  
30 next code to the input of the logic element corresponding  
to the previously received code,

so as to record in said data decompression  
apparatus an extended string corresponding to said  
currently fetched code and to output the characters  
35 thereof.

1 5. The apparatus of claim 4 wherein said means for  
processing said currently fetched code is operative to  
record the extended string comprising the string  
corresponding to the previously received code extended  
5 by said first character and to assign said next code  
thereto.

6. The apparatus of claim 1 wherein said coupling  
means comprises means for selectively coupling outputs  
10 of said logic elements to code decoder outputs.

7. The apparatus of claim 6 further including means  
for recording an extended string and assigning a code  
thereto, comprising  
15 means for storing the first character of the  
string corresponding to said input code in the storage  
location of said character storage means accessible by  
the code decoder output corresponding to a next code  
to be assigned to a string,  
20 said coupling means being operative for coupling  
the output of the logic element corresponding to said  
next code to the code decoder output corresponding to  
the code received previously to said input code,  
so as to record in said data decompression  
25 apparatus the extended string comprising the string  
corresponding to the previously received code extended  
by said first character and to assign said next code  
thereto.

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- 1 8. The apparatus of claim 6 further including means  
for processing a currently fetched code to which a  
recorded string has not been assigned, comprising  
means for storing the first character of the  
5 string corresponding to the code received previously  
to said currently fetched code in the storage location  
of said character storage means accessible by the code  
decoder output corresponding to a next code to be assigned  
to a string,  
10 said coupling means being operative for coupling  
the output of the logic element corresponding to said  
next code to the code decoder output corresponding to  
the previously received code,  
so as to record in said data decompression  
15 apparatus an extended string corresponding to said  
currently fetched code and to output the characters  
thereof.
9. The apparatus of claim 6 wherein  
20 said data characters are from an alphabet of  
data characters, and  
said plurality of code decoder outputs includes  
further code decoder outputs corresponding to the  
respective data characters of said alphabet.
- 25 10. The apparatus of claim 9 wherein said coupling  
means is operative to couple the output of a logic element  
to one of said further code decoder outputs to record  
a string with a root character corresponding to said  
30 one of said further code decoder outputs.
11. The apparatus of claim 9 wherein said character  
storage means includes initialized locations accessible  
by said further code decoder outputs and storing said  
35 data characters of said alphabet, respectively.

1 12. The apparatus of claim 1 further including means  
for assigning a level to a data character of a string,  
the level assigned to the last character of the string  
denoting the number of data characters comprising the  
5 string.

13. The apparatus of claim 12 wherein an extended  
string is comprised of a prefix string of at least one  
data character followed by an extension character,  
10 said assigning means being operative to assign  
a level to said extension character that is one greater  
than the level assigned to the last character of said  
prefix string.

15 14. The apparatus of claim 1 wherein said plurality  
of logic elements comprises a plurality of OR-gates.

15. The apparatus of claim 14 wherein said plurality  
of OR-gates comprises a plurality of single input  
20 OR-gates.

16. The apparatus of claim 1 wherein said plurality  
of logic elements comprises a matrix of logic elements.

25 17. The apparatus of claim 6 wherein said coupling  
means comprises a matrix switch.

18. The apparatus of claim 17 wherein said matrix  
switch comprises a plurality of controllable switches  
30 for selectively coupling the outputs of said plurality  
of logic elements to said code decoder outputs, a  
controllable switch coupling the output of a logic element  
corresponding to a particular code to a code decoder  
output corresponding to a code less than said particular  
35 code.